

The Raine Study Gen1-33 and Gen2-33 year (Generations) follow-up

As outlined at the Annual Scientific Meeting, the Raine Study will conduct a new follow-up with both Gen1 (parents of those born into the study) and Gen2 (participants born into the study from 1989- 1992) participants, currently named the Gen1-33 and Gen2-33 year (Generations) follow-up. Data collection is scheduled to begin early in 2023.

The way this follow-up is being funded means that we can collect only core data/measures, that is variables that have routinely been collected over the history of the Raine Study, which characterise our sample. We cannot add variables beyond those core data/measures unless those additions are 100% funded through other sources such as grants.

Please note that final decisions regarding the core data/measures and equipment/platforms used for data collection in the Generations follow-up will occur in 2022 in conjunction with our funders
This list may be subject to change.

The Raine Study Generations follow-up core data/measures		
Data/Measure	Equipment/Platform	Collection at follow-ups
Physical Assessment		
Height (m)	Stadiometer	Gen1 (antenatal & postnatal, onwards) Gen2
Weight (kgs)	Scales	
Hip and Waist circumferences (cm)	Tape measure	
Blood Pressure (mmHg)	Dinamap 100 (Sitting, 2min intervals, x6)	
Body Composition – Whole body (fat, bone, and fat-free mass)	GE Lunar iDXA - dual-energy X-ray absorptiometry scan	Gen2-20 onwards, Gen1-26
Cognitive Function		
Cogstate Computerised test	List of tasks used for Gen1-26, Gen2-16 and Gen2–22 year	Gen2-17, Gen2-22, Gen1-26
Sleep & Activity Tracking		
Accelerometry	Actigraph worn on the hip and wrist (8 days) + Diary	Gen2-22, Gen1-26 (Gen2-14, Gen-16 activity tracking via diaries / pedometers)
Bio samples (see Appendix 1)		
Fasting blood samples	Collection by phlebotomist	Gen1 (antenatal & postnatal, onwards), Gen2-8 onwards
Urine	Spot urine sample	Gen2-17 onwards
Questionnaires (see Appendix 2)		
Participant Questionnaire	Online (Qualtrics) or Hardcopy	Gen1 (antenatal & postnatal, onwards), Gen2
Medical Questionnaire	Online (Qualtrics) or Hardcopy	
Food Frequency Questionnaire	Online or Hardcopy (Victorian Cancer Council)	Regularly from Gen2-14 to Gen2-27, Gen1-26

Appendix 1. Biosamples		
Sample	Analysis	Collection at follow-ups
Blood samples/collection requirement		
Fasting blood EDTA	General blood parameters Full Blood Picture (including differential white cell count)	Gen2-14 onwards with differential count from Gen2-16, Gen1-26
Fasting blood (1. Serum 2. Plasma) Serum Separating Tube Potassium Oxalate	Glucose homeostasis 1. Insulin 2. Glucose 3. HbA1c	1. Gen2-14 onwards 2. Gen2-8 onwards, Gen1-26 (lost)
Fasting blood (Serum) SST	Lipids and cardiac measures 1. Total Cholesterol, HDL-C, Triglycerides, calc- LDL 2. hs-CRP 3. Lpa 4. Calcium	1. Gen2-8 onwards, Gen1-17, Gen1-26 (lost) 2. Gen2-14 onwards
	Kidney function panel 1. Sodium, Potassium, Creatinine, Bicarbonate 2. Urea, Uric Acid (UA) 3. eGFR	1. Gen2-14 onwards (not for Gen2-17), Gen1-26 (lost) 2. Gen2-20 onwards (with Urea at Gen2-14 only) 3. Gen2-27
	Liver function panel /proteins 1. Alanine aminotransferase (ALT), Alkaline phosphatase (ALP), Aspartate aminotransferase (AST) Gamma-glutamyl transpeptidase (GGT), Albumin (ALB) 2. Total Bilirubin (BIL), 3. Total Proteins, Calc Globulins	1. Gen2-14 and Gen2-17 had a combination of the liver enzymes tested and the full set from Gen2-20, Gen1-26 (lost) 2. Gen2-17 onwards 3. Gen2-27
	Iron Studies Iron, Ferritin, Transferrin, Transferrin saturation (%)	Gen2-8 onwards
	Thyroid function test FTSH, FT4, FT3, TPO	Gen2-14, Gen2-20
Red Blood Cell pellets / EDTA	Fatty acids	Gen2-14, Gen2-17, Gen2-20
Urine samples/collection requirement		
Spot urine sample Specimen container	Urine panel - kidney function Sodium, potassium, creatinine	Gen2-17, Gen2-27, Gen1-26 (lost)

EDTA – Ethylenediaminetetraacetic acid (anticoagulant) blood tube

SST- Serum separating tube or Lithium-Heparin tube

Appendix 2. Questionnaires	
Constructs (scales/questionnaires/questions used in the previous data collections)	Collection at Follow-ups
Participant Questionnaire	
Background (demographics, relationships, children, accommodation, income, education, work)	Gen1 (antenatal & postnatal onwards), Gen2
General Health (SF-12)	
General Mood and wellbeing (DASS-21, stressful life events, K10 [Kessler psychological distress scale], self-harm)	
Physical Pain (OMPQ [Orebro Musculoskeletal Pain Questionnaire], KOOS [Knee Injury and Osteoarthritis Outcome Score], HOOS [Hip Disability and Osteoarthritis Outcome Score])	
Asthma and Allergy	Gen2
Sun Exposure	Gen1 (antenatal & postnatal onwards), Gen2-14 onwards
Physical Activity and Sitting (IPAQ-SF [International Physical Activity Questionnaire - Short Form])	
Technology Use (TechU-Q)	
Sleep (PSSQ-I [Pittsburgh Sleep Symptoms Questionnaire], Berlin Questionnaire, ESS [Epworth sleepiness scale], PSQI [Pittsburgh Sleep Quality Questionnaire], restless legs syndrome)	
Eating habits and weight (EDE-Q [Eating Disorder Examination Questionnaire])	
Alcoholic, Non-alcoholic, and energy drinks	
Smoking and drug use	
Sexual orientation/gender identity	
Sexual experiences and sexual transmitted infections	
Contraception and pregnancy	
Driving	
Medical Questionnaire	
Medical history (diagnosed conditions)	Gen1 (antenatal & postnatal onwards), Gen2
Doctor-prescribed medications and over the counter medications or supplements	
Accidents, injuries or hospital admissions and health professional visits	
Food Frequency Questionnaire	
Frequency and, in some cases, portion size information about food and beverage consumption over a specified period <i>General diet questions are also included in participant questionnaire (section above)</i>	FFQ (Vic) Gen2-14 to Gen2-27, FFQ (Vic) Gen1-26